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			2491	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary		Applicatio	n No.	No. Applicant(s)				
		10/594,31	0	ALESSI ET AL.				
		Examiner		Art Unit				
		LINGLAN	EDWARDS	2491				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply								
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).								
Status								
1) 又	Responsive to communication(s) filed on 31	May 2011						
2a)	This action is <b>FINAL</b> . 2b) This action is non-final.							
3)	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is							
٠,١	closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.							
	·							
Dispositi	on of Claims							
4) 🛛	I)⊠ Claim(s) <u>18-28 and 34</u> is/are pending in the application.							
	4a) Of the above claim(s) is/are withdrawn from consideration.							
5)	5) Claim(s) is/are allowed.							
6)🛛	6) Claim(s) 18-22,24-28 and 34 is/are rejected.							
7)	Claim(s) is/are objected to.							
8)	Claim(s) are subject to restriction and/	or election re	quirement.					
Application Papers								
9)	The specification is objected to by the Examir	ner.						
10)⊠ The drawing(s) filed on <u>14 January 2010</u> is/are: a)⊠ accepted or b)□ objected to by the Examiner.								
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).								
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).								
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.								
Priority under 35 U.S.C. § 119								
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:								
	1. Certified copies of the priority documents have been received.							
	2. Certified copies of the priority documents have been received in Application No							
	3. Copies of the certified copies of the priority documents have been received in this National Stage							
	application from the International Bureau (PCT Rule 17.2(a)).							
* See the attached detailed Office action for a list of the certified copies not received.								
Attachmen	t(s)							
1) Notice of References Cited (PTO-892)  4) Interview Summary (PTO-413)								
	e of Draftsperson's Patent Drawing Review (PTO-948)		Paper No(s)/Mail Da					
3) Information Disclosure Statement(s) (PTO/SB/08)  Paper No(s)/Mail Date  5) Notice of Informal Patent Application 6) Other:								

1. This communication is in respond to applicant's submission filed on May 31, 2011. Claims 18-22, 24-28 and 34 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

5/31/2011 has been entered.

**Examiner's Note** 

3. Examiner has cited particular columns and line numbers in the references as

applied to the claims above for the convenience of the applicant. Although the specified

citations are representative of the teachings of the art and are applied to the specific

limitations within the individual claim, other passages and figures may apply as well. It is

respectfully requested from the applicant in preparing responses, to fully consider the

references in entirety as potentially teaching all or part of the claimed invention, as well

as the context of the passage as taught by the prior art or disclosed by the Examiner.

# Response to Arguments

4. Applicant's following arguments filed 05/10/2011 have been fully considered but they are not persuasive.

# **Applicant's Arguments:**

First, McHenry's "user access frequencies" do not constitute the claimed "interest value," because the "user access frequencies" are determined "for each category based on statistical data ... associated with the respective category," as recited by amended claim 18. Indeed, McHenry's "user access frequencies" have nothing to do with each of its "plurality of content groups." Accordingly, since the "user access frequencies" are not associated with respective "content groups," McHenry also fails to teach or suggest "identifying at least one category, from said predefined categories, when the distributed contents associated with the category have an interest value that exceeds the interest threshold," as recited by claim 18. (Applicant's response filed on 05/10/2011, page 11)

#### **Examiner's Response:**

The Examiner respectfully disagrees. "user access frequencies" indicate how often user access particular contents and therefore are clearly interest values; further, it is clearly statistic data; further more, McHenry disclosed the user access frequencies are reported and stored in the meta-data/rules base database (McHenry: par 0031), please note, the meta/data/rules associate the cache management attributes with corresponding content groups (McHenry:

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par0013), each group is a category; therefore, the user access frequencies are clearly associated with respective content group (i.e. category).

### **Applicant's Arguments:**

Furthermore, the Final Office Action alleged that content on McHenry's "enterprise network edge servers" (McHenry, paragraph [0025]) and "origin server systems" (id.) correspond to the claimed "distributed contents" and "remaining contents that have not been distributed," respectively. See Final Office Action, p. 3. Even accepting this allegation, solely for the sake of argument, McHenry neither teaches nor suggests making contents at the "origin server systems" available for distribution if they are associated with the same category as certain contents at the "enterprise network edge servers," where those contents at the "enterprise network edge servers," where exceeding an interest threshold. That is, McHenry fails to teach or suggest "making at least one of the identified contents associated with said identified category available for distribution at surrogate servers," as recited by claim 18. (Applicant's response filed on 05/10/2011, page 11).

## **Examiner's Response:**

At the onset, the Examiner mapped "EDGE SERVER" to "surrogate servers" and clearly noted it's the "content at the "ORIGIN SERVER" being corresponded to "remaining contents that are not available at the surrogate

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server" in the rejection; further, McHenry clearly noted the system being built on top of a system with content origin server and reverse proxy caches and that "relevant user content requests from the Internet at large are served from the reverse proxy cache with the origin servers acting as a content source only for requests for uncached content" (McHenry: par 0007), which clearly indicates the origin server contains the remaining content that have not been distributed (i.e. not at the edge server); Further more, McHenry clearly disclosed making contents at the "origin server systems" available for distribution if they are associated with the same category as certain contents at the "enterprise network edge servers," --- McHenry disclosed "a plurality of content groups " are defined to present "respective content sub-sets", and further these content groups are associated with cache management attributes by way of cache control rules for distributing content (McHenry: par 0013), and content distribution is "tailored to support the specific content and quality of service requirements of the clients directly served by the multi-proxy cache" (McHenry: par 0016); and as noted above, user interest value such as user access frequencies are used to generate/modify the rules; Further more, the same concept of caching / prefetching content based on category is also clearly taught by Ben-Shaul (par 0026, 0062, 0063)

# **Applicant's Arguments:**

Conceding that McHenry "does not explicitly disclose receiving an input of an interest threshold to be used for identifying content group/category," the Final Office Action cited Menon to remedy the deficiency. See Final Office Action, pp. 4-5. Menon discloses that "if the frequency of access of a particular content goes over a preset threshold, the system can trigger an operation that eventually results in the 'push' of the content from an origin server ... to the rest of the edge servers." Menon, paragraph [0076]. The Final Office Action apparently interpreted Menon's "frequency of access" and "preset threshold" as equivalent to the claimed "interest value" and "interest threshold," respectively. See Final Office Action, pp. 4-5. This is incorrect; and Menon does not cure the above-discussed deficiencies of MeHenry.

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Menon's "frequency of access" is not determined "for each category based on statistical data ... associated with the respective category," as recited by amended claim 18. Indeed, according to Menon, the "frequency of access" is associated with "a particular content" (Menon, paragraph [0076]), rather than "each category," as recited by claim 18. Accordingly, since Menon only determines "if the frequency of access of a particular content goes over a preset threshold," it cannot identify "at least one category, from said predefined categories, when the distributed contents associated with the category have an interest value that exceeds the interest threshold," as recited by claim 18.

Furthermore, Menon discloses that "if the frequency of access of a particular content goes over a preset threshold" (see Menon, paragraph [0076]),

this same content will be pushed from the origin server, rather than "making at least one of the identified contents [that have not been distributed] associated with said identified category available for distribution at surrogate servers," as recited by claim 18. Indeed, like McHenry, Menon is silent regarding making undistributed contents available for distribution if they are associated with the same category as certain distributed contents that have an interest value exceeding an interest threshold. (Applicant's response filed on 05/10/2011, page 11-12).

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## **Examiner's Response:**

Menon disclosed using of preset threshold over frequency of access to determine if particular content should be cached at surrogate server, it would have been obvious to one of ordinary skill in the art at the time of the invention, to applied the same concept of threshold for the content groups (categories) in the system of McHenry, i.e., the same concept of using threshold may be readily used in determining interest for the content groups in the system of McHenry; because McHenry clearly disclosed distribution of content groups are tailored based on specific content requirements and changing user demands (McHenry: par 0013, 0016, 0018), using of threshold on attributes such as access frequency is just an implementation for determine the content requirement and use demand; Use of known technique to improve similar system in the same way provided in the teachings of prior art is part of the ordinary capabilities of one of ordinary skill in the art. KSR Int'l Co. v. Teleflex, Inc., 550 U.S. 398 (2007).

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#### Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 6. Claims 18, 24-28 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PG-PUB No. 2003/0115421 A1 to McHenry et al. (Cited in previous office action, hereinafter McHenry) in view of US PG-PUB No. 2002/0152318 A1 to Menon et al. (Cited in previous office action, hereinafter Menon), US PG-PUB No. 2002/0010798 A1 to Ben-Shaul et al. (Cited in previous office action, hereinafter Ben-Shaul) and US PG-PUB No. 2003/0028564 A1 to Sanfilippo (Cited in previous office action, hereinafter Sanfilippo).

As per claim 18, McHenry disclosed a method for controlling distribution of media contents over a network (McHenry: Abstract, network edge cache management system), wherein said contents comprise distributed contents (McHenry: Fig. 1, ref 22, 24, content stored in "EDGE SERVER" (multi-proxy caches) are distributed content) and remaining contents that have not been distributed (McHenry: Fig. 1, content at the "ORIGIN SERVER", par 0007, "uncached content" corresponds to the remaining contents), comprising the steps of:

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identifying contents eligible for distribution from the remaining contents (**McHenry**: paragraph [0013], "content selection server" identifies content in the bounded content domain);

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defining a set of categories (**McHenry**: paragraph [0013], "predefined set of domain content identifiers" each corresponds to a category; also on page 6, claim 1, "selecting" and "grouping");

identifying for each category at least a reference content (**McHenry**: paragraph [0013], also claim 1 text, the meta-content description for each content group is the equivalent of a reference content);

associating said distributed content and said identified contents with said predefined categories (**McHenry**: paragraph [0013], "associate respective sets of predetermined cache management attributes with the plurality of content groups", and further on page 6, claim 15, the ache management attributes "designate corresponding content of said bounded domain for forward or reverse proxy caching by said plurality of network edge cache servers");

determining an interest value for each category based on statistical data indicative of user interest in the distributed content associated with the respective category (**McHenry**: par 0031, log files and information such as "content and user access frequencies" (i.e. interest value) are used as basis for generating content policy rule bases; and par 0042, content policy rules are used for determining cache partitions (i.e. allocation of different content groups / categories);

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identifying at least one category, from said predefined categories, when the distributed contents associated with the category have an interest value that exceeds a threshold (**McHenry**: paragraph [0031], "user access frequencies" corresponds to user interest, as one of ordinary skill in the art would recognize, some type of threshold has to be used for taking into account of the user access frequencies/ interest); and

making at least one of the identified contents associated with said identified category available for distribution at surrogate servers (**McHenry**: paragraph [0013], cache control rule bases are distributed to the edge servers; these are replacement policies, i.e., they identify the new content from the origin server to the edge servers' cache);

McHenry does not explicitly disclose receiving an input of an interest threshold to be used for identifying content group/category, in an analogous art in network content distribution, Menon disclosed a method and system where an input of an interest threshold is received and used for identifying content to be distributed/cached at edge server (Menon: paragraph [0076], "if the frequency of access of a particular content goes over a preset threshold, the system can trigger an operation that eventually results in the "push" of the content from an origin server (or any other server) to the rest of the edge servers (or to some subset of the rest of the edge servers)", the input of threshold was received during the "preset"); it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of McHenry to incorporate the

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concept of using preset threshold of user interest / access frequency in identifying content to be provided to edge server, to applied the same concept of threshold for the content groups (categories) in the system of McHenry, i.e., to use a preset threshold of user access frequency in identifying content group to be distributed to edge servers, the motivation being for increased network system efficiency; because McHenry clearly disclosed distribution of content groups are tailored based on specific content requirements and changing user demands (McHenry: par 0013, 0016, 0018), using of threshold on attributes such as access frequency is just an implementation for determine the content requirement and use demand;

McHenry-Menon does not explicitly disclose associating distributed contents and said identified contents based on semantics affinity with said reference content, in an analogous art in network content distribution, Ben-Shaul disclosed a method and system that associates distributed contents and identified contents based on semantics affinity (Ben-Shaul: paragraph [0063], the example of when user request for a cook book, the server return a list of cook books, and information regarding local food and cookware stores, indicates that contents are associated with predefined categories based on semantics affinity; and paragraph [0072], second version of the content derived from the origin web server); one ordinary skill in the art would recognize that such association method can be equally used for categorizing content at the original server; it would have been obvious to one of ordinary skill in the art at the time of the

convention, to modify the system of **McHenry-Menon** to further incorporate the association contents based on semantics affinity from **Ben-Shaul**, the motivation being for increased system efficiency and ease of use, because using semantics affinity is just one way of categorization;

Although McHenry-Menon-Ben-Shaul does not explicitly disclose using a reference content to categorize addition content based on semantics distance, in an analogous art in network communications, Sanfilippo disclosed a method and system where additional content are categorized based on semantics affinity with reference content, where the semantics affinity is calculated as the distance between the additional content and the reference content (Sanfilippo: page 10, claim 27 text); it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of McHenry-Menon-Ben-Shaul to further incorporate the categorizing additional content based on calculation of semantic distance from Sanfilippo, the motivation being for increased system efficiency and ease of use, because how to categorize content is just a matter of implementation choice.

As per claim 24, McHenry-Menon-Ben-Shaul-Sanfilippo disclosed the method according to claim 23; although McHenry-Menon-Ben-Shaul-Sanfilippo does not explicitly disclose using two separate databases for storing classification information, Ben-Shaul disclosed using two separate databases for storing content provided (Ben-Shaul: paragraph [0072], origin web server storage and

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edge server storage); it would have been obvious to one of ordinary skill in the art, to also apply the separated databases concept for storing classification information, the motivation being for increased data access efficiency.

As per claim 25, McHenry-Menon-Ben-Shaul-Sanfilippo disclosed the method according to claim 24, wherein said step of identifying at least one category comprises the steps of:

defining the interest threshold to be representative at least of a frequency of user requests for a given distributed content (**McHenry**: paragraph [0031], "user access frequencies"; and **Menon**: paragraph [0076]); and

extracting from said first database category information comprising at least one predefined category associated with said given distributed content when said interest threshold is exceeded (**McHenry**: paragraph [0031], "user access frequencies" corresponds to user interest, and **Menon**: paragraph [0076]).

As per claim 26, McHenry-Menon-Ben-Shaul-Sanfilippo disclosed the method according to claim 24, wherein said step of making at least one of the identified contents associated with said identified category available for distribution at said surrogate servers comprises the step of:

extracting from said second database contents information related to said at least one identified content (**Ben-Shaul**: paragraph [0063], extract information

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regarding local food and cookware stores when a cook book is requested).

As per claim 27, McHenry-Menon-Ben-Shaul-Sanfilippo disclosed the method according to claim 24 comprising the steps of:

identifying identified information comprising at least usage information provided by said surrogate servers ((**McHenry**: paragraph [0031], "user access frequencies"; and **Ben-Shaul**: paragraph [0054], statistics collection and reporting);

matching said additional information with said category information provided by said first database (**Ben-Shaul**: paragraph [0063], finding related information, i.e., matching content requested with category information; same matching method can be used for content frequently requested as well);

generating at least one class template comprising said matched information (**Ben-Shaul**: paragraph [0070], distribution policies change dynamically based on characteristic of differentiated content; the discloses identifies "class template" as "content distribution events/actions based on triggered policies for distributing the contents or for modifying the distribution policies);

adding to said class template said contents information provided by said second database (**Ben-Shaul**: paragraph [0069] [0070], policies (and new policies) are stored on origin site, a database has to be inherently included for the storage); and

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forwarding said at least one modified class template to a distribution system (**Ben-Shaul**: paragraph [0069], the edge servers get updates on their policies from the origin site, i.e., the new policies are forwarded to the edge servers from the origin site).

As per claim 28, McHenry-Menon-Ben-Shaul-Sanfilippo disclosed the method according to claim 27 wherein said step of adding to said class template said contents information provided by said second database comprises the steps of:

accessing a class template repository (**Ben-Shaul**: paragraph [0069] [0070], policies (i.e. classes) (and new policies) are stored on origin site, a database has to be inherently included for the storage, the policy repository has to be accessed for the change to be recorded); and

modifying said class template according to said content information (**Ben-Shaul**: paragraph [0069] [0070], policies (and new policies) are stored on origin site, a database has to be inherently included for the storage).

As per claim 34, McHenry-Menon-Ben-Shaul-Sanfilippo disclosed a non-transitory computer readable medium encoded with a computer program product loadable into a memory of at least one computer, the computer program product comprising software code portions for performing the method of claim 18 (the rationale of rejection and reasons of obviousness have been noted in the rejection of claim 1 above and applicable herein).

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7. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **McHenry** in view of **Menon**, **Ben-Shaul** and **Sanfilippo** as applied to claim 18 above, and further in view of **US Pat. No. 6,829,613 B1** to **Liddy** (Cited in previous office action, hereinafter **Liddy**).

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As per claim 19, McHenry-Menon-Ben-Shaul-Sanfilippo disclosed the method according to claim 18; although McHenry-Menon-Ben-Shaul-Sanfilippo does not explicitly disclose the step of calculating semantics affinity comprising step of involving the use of data mining or artificial intelligence mechanisms, in an analogous art in electronic content providing, Liddy disclosed a method and system that calculating semantics affinity involves the use of artificial intelligence mechanisms (Liddy: col. 13, line 61 - col. 14, line 7, "decision tree" is an artificial intelligence mechanism), it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of McHenry-Menon-Ben-Shaul-Sanfilippo to further incorporate the using of artificial intelligence mechanisms for calculating semantics affinity from Liddy, the motivation being for increase ease of use, because what method to use for calculating semantics affinity is just a matter of implementation choice.

As per claim 20, McHenry-Menon-Ben-Shaul-Sanfilippo-Liddy disclosed the method according to claim 19, wherein said mechanisms comprise at least a

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mechanism selected from neural networks, fuzzy logic and decision trees (**Liddy**: col. 13, line 61 - col. 14, line 7, decision tree).

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8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over **McHenry** in view of **Menon**, **Ben-Shaul** and **Sanfilippo** as applied to claim 18 above, and further in view of **US PG-PUB No. 2002/0062300 A1** to **Asadov et al.** (Cited in previous office action, hereinafter **Asadov**).

As per claim 21, McHenry-Menon-Ben-Shaul-Sanfilippo disclosed the method according to claim 18; although McHenry-Menon-Ben-Shaul-Sanfilippo does not explicitly disclose using of searching engines in the step of identifying a reference content, in an analogous art in electronic content providing, Asadov disclosed a method and system where search engines are used for identifying document by content (Asadov: paragraph [0020], [0050], search agents are used for identifying document by semantics); it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of McHenry-Menon-Ben-Shaul-Sanfilippo to further incorporate the search agents (search engines) from Asadov, the motivation being for improved system efficiency.

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over **McHenry** in view of **Menon**, **Ben-Shaul**, **Sanfilippo** and **Asadov** as applied to claims

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18 and 21 above, and further in view of **US PG-PUB No. 2002/0188681 A1** to **Gruen et al.** (Cited in previous office action, hereinafter **Gruen**).

As per claim 22, McHenry-Menon-Ben-Shaul-Sanfilippo-Asadov disclosed the method according to claim 18, wherein said step of identifying for each category at least a reference content comprises the steps of:

identifying a set of reference contents by using search engines (**Asadov**: paragraph [0020], [0050], search agents are used for identifying document by semantics; see motivation in the rejection of claim 21 above);

Although McHenry-Menon-Ben-Shaul-Sanfilippo-Asadov does not explicitly disclose calculating a central reference content, in a analogous art in providing electronic content, Gruen disclosed a method and system where a centroid document (i.e. central reference content) is calculated for a set of documents (Gruen: paragraph [0039], computing a centroid document for a cluster of documents); it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the system of McHenry-Menon-Ben-Shaul-Sanfilippo-Asadov to further incorporate the calculating central reference content from Gruen, the motivation being for increased system efficiency and accuracy for categorizing documents.

#### Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINGLAN EDWARDS whose telephone number is

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(571)270-5440. The examiner can normally be reached on 6:00AM-3:30PM EST Mon-

Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Ashokkumar B. Patel can be reached on (571) 272-3972. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

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/Linglan Edwards/

Examiner, Art Unit 2491